

poster ABSTRACT

Poster No. 1

TITLE

AN ANALYSIS OF FIVE YEARS OF CHILDHOOD BLOOD LEAD IN NEW JERSEY: PARTNERING TO UNDERSTAND EXPOSURES AND ENVIRONMENTAL FACTORS LEADING TO ELEVATED BLOOD LEAD LEVELS

TRACK

Network Content

OBJECTIVES

This poster will illustrate the need to examine additional risk factors of elevated childhood blood lead exposure beyond those of lead-based paint exposure. Geocoding and accurate delineation of water system boundaries will be shown to be integral in assigning exposure levels to each residence in which a child resides. The poster will illustrate how partnerships between EPHT and data stewards can generate detailed analyses of health outcome data that are useful to the data stewards.

SUMMARY

Since the phase-out of leaded gasoline and efforts to reduce exposure to lead-based paint, there has been a steady decline in blood lead levels throughout New Jersey. However, nearly 3% of NJ children aged 6 to 29 months still have blood lead levels greater or equal to 10µg/dL. In order to identify environmental factors contributing to elevated levels, the New Jersey EPHT project partnered with the New Jersey Childhood Lead Poisoning Prevention Program and the NJDEP to link childhood blood lead to community-level data on environmental hazards. Blood lead data were obtained for 326,000 children screened between 2000 and 2004. County-level, municipal, and seasonal analyses examined lead in ambient air, from non-mobile sources and in drinking water. Children were assigned a value for ambient air lead concentration based on modeled NATA estimates and facility emission densities for the census tract in which they resided. Community water systems were mapped and each child was assigned a value for drinking water lead concentration for the system in which they resided. Descriptive analyses found 3 urban counties and one suburban county to have the most children with blood lead levels exceeding both 10 and 20 µg/dL. Higher blood lead concentrations were found in children aged 21-27 months compared to children aged 9-15 months. Blood lead levels followed a seasonal trend, with highest concentrations reported during summer months. Results from regression analyses will also be presented.

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Page 1 of 2



Implementing The Tracking Network

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